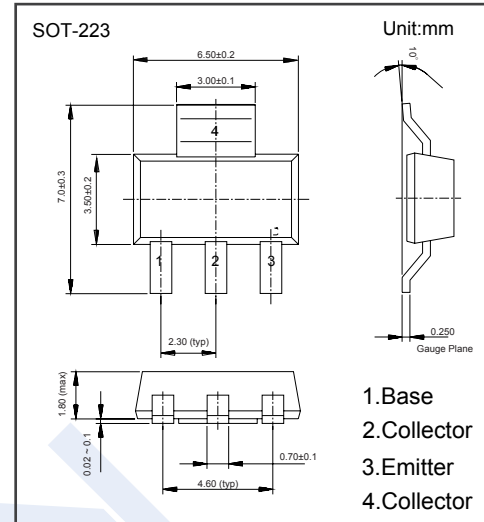


## PNP Transistors

### FZT1151A (KZT1151A)

#### ■ Features

- Collector Current Capability  $I_C = -3A$
- Collector Emitter Voltage  $V_{CE0} = -40V$
- Low Saturation voltage



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	-45	V
Collector - Emitter Voltage	$V_{CEO}$	-40	
Emitter - Base Voltage	$V_{EBO}$	-5	
Collector Current - Continuous	$I_C$	-3	A
Collector Current - Pulse	$I_{CP}$	-5	
Base Current	$I_B$	-500	mA
Collector Power Dissipation	$P_C$	2.5	W
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature range	$T_{stg}$	-55 to 150	

## PNP Transistors

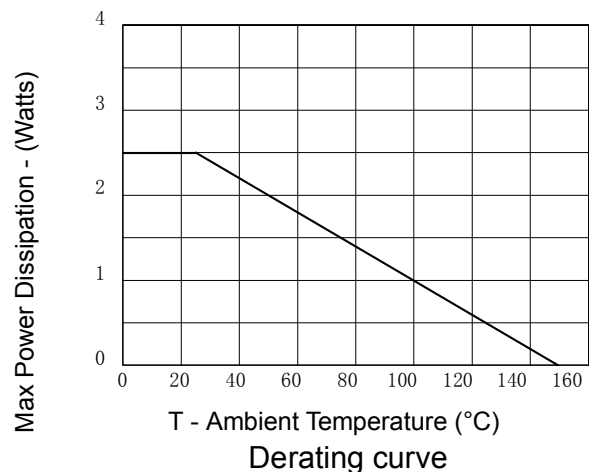
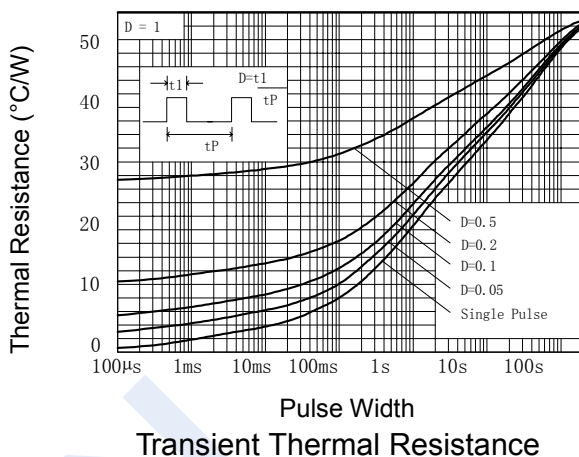
### FZT1151A (KZT1151A)

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_C = -100 \mu\text{A}$ , $I_E = 0$	-45			V
Collector- emitter breakdown voltage	$V_{CES}$	$I_C = -100 \mu\text{A}$ , $I_B = 0$	-45			
Collector- emitter breakdown voltage	$V_{CEO}$	$I_C = -10 \text{mA}$ , $I_B = 0$	-40			
Collector- emitter breakdown voltage	$V_{CEV}$	$I_C = -100 \mu\text{A}$ , $V_{EB} = 1\text{V}$	-40			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = -100 \mu\text{A}$ , $I_C = 0$	-5			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = -36 \text{V}$ , $I_E = 0$			-100	nA
Collector-emitter cut-off current	$I_{CES}$	$V_{CE} = -32 \text{V}$ , $I_B = 0$			-100	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4\text{V}$ , $I_C = 0$			-100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}$ , $I_B = -10\text{mA}$ (Note.1)			-90	mV
		$I_C = -0.5 \text{A}$ , $I_B = -3\text{mA}$ (Note.1)			-180	
		$I_C = -1 \text{A}$ , $I_B = -20\text{mA}$ (Note.1)			-220	
		$I_C = -1.8 \text{A}$ , $I_B = -70\text{mA}$ (Note.1)			-260	
		$I_C = -3 \text{A}$ , $I_B = -250\text{mA}$ (Note.1)			-300	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -3 \text{A}$ , $I_B = -250\text{mA}$ (Note.1)			-1.1	V
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	$V_{CE} = -2\text{V}$ , $I_C = -3\text{A}$ (Note.1)			-1	
DC current gain (Note.1)	$h_{FE(1)}$	$V_{CE} = -2\text{V}$ , $I_C = -10\text{mA}$	270			
	$h_{FE(2)}$	$V_{CE} = -2\text{V}$ , $I_C = -500\text{mA}$	250		800	
	$h_{FE(3)}$	$V_{CE} = -2\text{V}$ , $I_C = -2 \text{A}$	180			
	$h_{FE(4)}$	$V_{CE} = -2\text{V}$ , $I_C = -3 \text{A}$	100			
	$h_{FE(5)}$	$V_{CE} = -2\text{V}$ , $I_C = -5 \text{A}$		45		
Switching Times	$t_{on}$	$I_C = -2\text{A}$ , $I_B = -20\text{mA}$ , $V_{CC} = -30\text{V}$		170		ns
	$t_{off}$	$I_C = -2\text{A}$ , $I_B = \pm 20\text{mA}$ , $V_{CC} = -30\text{V}$		460		
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}$ , $f = 1\text{MHz}$		40		pF
Transition frequency	$f_r$	$V_{CE} = -10\text{V}$ , $I_C = -50\text{mA}$ , $f = 50\text{MHz}$		145		MHz

Note.1: Pulse width=300us. Duty cycle  $\leq 2\%$

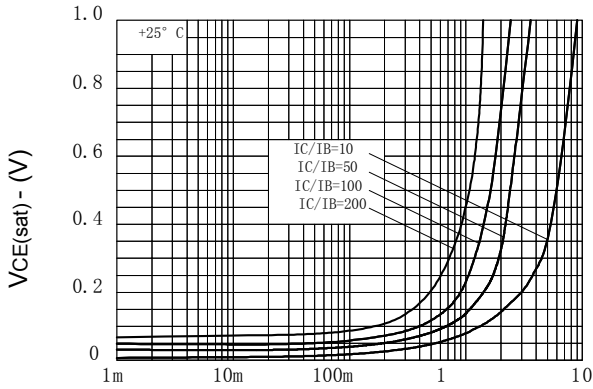
#### ■ Typical Characteristics



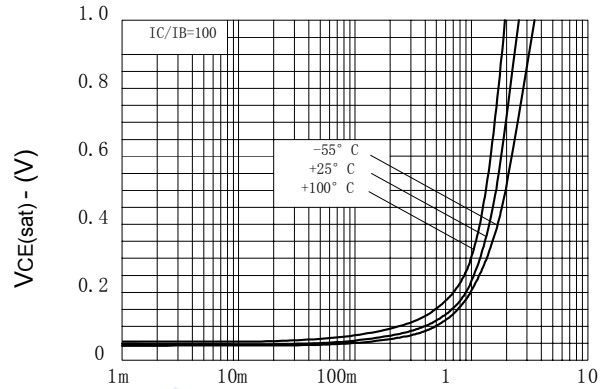
# PNP Transistors

## FZT1151A (KZT1151A)

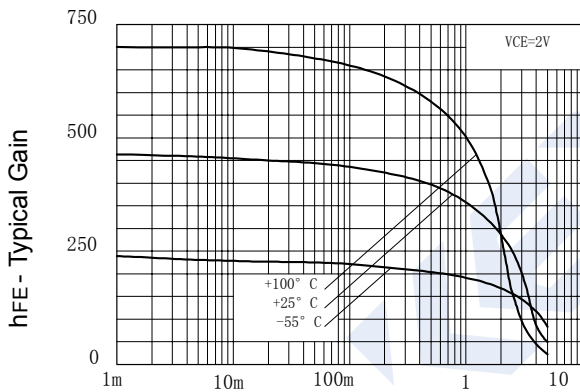
■ Typical Characteristics



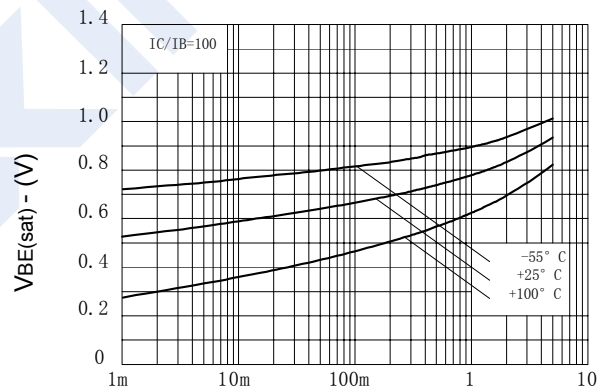
$I_C$  - Collector Current (A)  
 $V_{CE(sat)}$  v  $I_C$



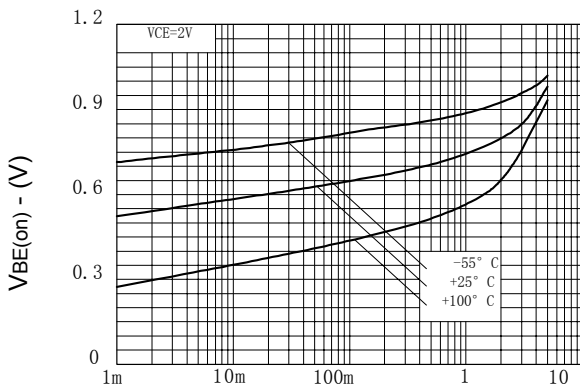
$I_C$  - Collector Current (A)  
 $V_{CE(sat)}$  v  $I_C$



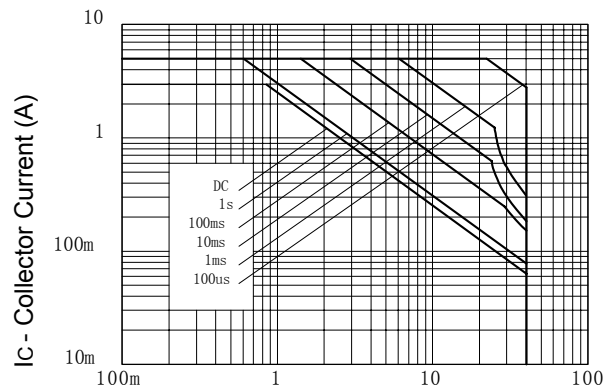
$I_C$  - Collector Current (A)  
 $h_{FE}$  v  $I_C$



$I_C$  - Collector Current (A)  
 $V_{BE(sat)}$  v  $I_C$



$I_C$  - Collector Current (A)  
 $V_{BE(on)}$  v  $I_C$



$V_{CE}$  - Collector Emitter Voltage (V)  
Safe Operating Area